

BURNT REFRACTORY CERAMIC PRODUCT AND MIXTURE FOR ITS  
MANUFACTURE

CLAIMS

1. A burnt refractory ceramic product with the following mineralogical phases:
  - 1.1 70-98% by weight of a stoichiometric  $MgO-Al_2O_3$  spinel
  - 1.2 1-15% by weight of forsterite
  - 1.3 1-15% by weight of periclase
  - 1.4 Up to 10% by weight of other,

wherein the total is 100% by weight.
2. The product according to Claim 1, with the following mineralogical phases:
  - 2.1 70-97% by weight of a stoichiometric  $MgO-Al_2O_3$  spinel
  - 2.2 1-10% by weight of forsterite
  - 2.3 1-10% by weight of periclase
  - 2.4 1-10% by weight of  $ZrO_2$  and/or at least one Ca-Al oxide phase
3. The product according to Claim 1, with a density > 3.35 g/cm<sup>3</sup>.
4. A mixture for manufacturing a refractory product according to any one of Claims 1-3, which comprises the following components:
  - 4.1 70-98% by weight of a non-stoichiometric  $MgO-Al_2O_3$  spinel
  - 4.2 2-30% by weight of mullite
  - 4.3 Up to 10% by weight of other,

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wherein the total is 100% by weight.

5. The mixture according to Claim 4, in which the mullite consists of sinter mullite.
6. The mixture according to Claim 4, wherein the components have a grain size < 50  $\mu\text{m}$ .
7. The mixture according to Claim 4, in which the components are prepared by mixing to granules.
8. The mixture according to Claim 4, with a proportion of up to 10% by weight of  $\text{ZrO}_2$  or a component containing  $\text{ZrO}_2$ .
9. The mixture according to Claim 4, wherein the non-stoichiometric  $\text{MgO}-\text{Al}_2\text{O}_3$  spinel has the following compositions:

$\text{Al}_2\text{O}_3$ : 58-70% by weight  
 $\text{MgO}$ : 29-40% by weight  
secondary constituents: < 5% by weight

wherein the total is 100% by weight.